

REMARKS/ARGUMENTS

Claim 1 has been amended to require the size to be applied directly to the fiber during the fiberization process, support for which exists throughout the present application, including page 6, lines 19-22 and the examples.

New independent claim 19 has been amended to require the size to be applied directly to the fiber during fiberizing, support for which exists throughout the present application, including page 3, lines 23-26 and the examples.

Claims 1-4 and 6-19 are currently pending.

The Office Action rejected claims 1-4, 6-11, 13, 14, 17 and 18 under 35 U.S.C § 102 as anticipated by EP 1,044,939 (“EP 939”); claims 1-4, 6-10, 12-14, 17 and 18 under 35 U.S.C § 103 as obvious over U.S. patent 5,846,654 (“Modrak”); claim 12 under 35 U.S.C § 103 as obvious over EP 939; and claims 1-4 and 6-18 under 35 U.S.C § 103 as obvious over EP 310,100 (“Hansen”) in view of Cithrol product information (“Cithrol”). In view of the following comments, Applicants respectfully request reconsideration and withdrawal of these rejections.

The present invention relates to unique polyolefin fibers having unique sizing agents. More specifically, the sizing agents of the present invention comprise at least a product based on fatty-acid polyethylene glycol ester and phosphoric acid ester compounds, natural-oil-based, a product based on a fatty-acid-derived polyethylene glycol ester, and/or a product based on non-ionic surfactant and esterquats. The required, specified sizing agents assist fiberization, assist wetting by the composition of the hydraulic-setting substance to which they have been added, and promotes adhesion to the hydraulic-setting substance. These novel fibers have beneficial properties owing at least in part to these functionalities,

particularly for use in reinforcing products based on fibers and a hydraulic-setting substance.

The applied art neither teaches nor suggests such unique fibers.

Applicants draw attention to the examples in the present application. In comparative examples 1 and 3, CRACKSTOP commercial product was compared to the invention fibers. CRACKSTOP is a polyolefin (polypropylene) which is coated with a surface agent (stabilizer). (See, Tab A, Section 2). The summary information in Tables 1 and 2 indicate that the invention fibers possess improved properties as compared to CRACKSTOP. Thus, as an initial observation, not all coated polyolefin fibers are the same. Some are better than others. This is the significance of the present invention: providing improved polyolefin fibers which are neither taught nor suggested by the applied art.

Initially, Applicants note that claims 15 and 16 which were not rejected over EP 939 or Modrak. The Office Action (at 10) asserted that this fact is not germane. However, the Office has never asserted that any applied art discloses or suggests the size required by claims 15 and 16. The fact that no applied art disclosing the required size of claims 15 and 16 is completely germane. In fact, it indicates that the rejection of claims 15 and 16 is improper and that these claims are allowable.

Regarding the specific applied art, EP 939 requires a corona treatment prior to size application and, indeed, teaches away from direct application of the size. In this regard, Applicants note that EP 939 distinguishes both Hansen (par. [0020]) and the CRACKSTOP product (par. [0026]) from its corona-based treatment. In contrast, the claimed invention requires direct application of the size to the fiber during processing. Accordingly, EP 939 cannot teach or suggest the present invention.

With respect to Modrak, the Office recognized that Modrak does not disclose the required size concentration range. In an attempt to compensate for this fatal deficiency, the

Office asserted that arriving at the required range would merely have amounted to routine optimization of a result effective variable. However, because Modrak does not teach, suggest, or recognize that size concentration is important, this variable is not recognized as being result effective, meaning that “routine optimization” of the variable cannot occur. Accordingly, the obviousness rejection is improper and should be withdrawn.

Regarding the remaining obviousness rejection, the combination of Hansen and Cithrol does not suggest the claimed invention, nor would their combination lead one of ordinary skill in the art to the claimed invention.

Hansen discloses fibers containing sizing agents limited to specified antistatic agents. This reference does not suggest the required sizing agents. This failure of disclosure is significant given the associated functionality of the claimed fibers, namely assisting in fiberization, assisting in wetting by the composition of the hydraulic-setting substance to which they have been added, and promoting adhesion to the hydraulic-setting substance. The claimed sizing agents yield fibers having such functionality and, thus, yield fibers having improved properties. In stark contrast, sizing agents containing only the specified antistatic agents in the applied art would yield inferior products having inferior properties.

Hansen does not provide any specific guidance as to which sizing agents to use which would lead one of ordinary skill in the art to the claimed agents. Rather, Hansen merely discloses that any surface modification will suit his purposes. (See, page 4, line 36-39). The Office Action does not -- and cannot -- point to any specific disclosure of the required sizing agents in Hansen.

This is particularly true for claims 13, 14, 17 and 18: Hansen does not disclose fibers containing sizing agents comprising fatty-acid-derived polyethylene glycol ester, and their fibers yield inferior products.

This is also particularly true for claims 13-16: Hansen does not disclose fibers containing sizing agents comprising phosphoric acid ester compounds, natural-oil-based, and/or esterquats, and their fibers yield inferior products.

Cithrol cannot compensate for Hansen's deficiencies as a matter of law. Hansen was filed in 1987 and refers to commercial product Cithrol A. No evidence exists as to what the constituents of Cithrol A was in 2000. Rather, Citrhol is from the year 2000.

These failures of disclosure are particularly significant given the examples of the present application which demonstrate that not all coated polyolefin fibers are equal: some are significantly better than others. The present invention informs one of ordinary skill in the art of these improved fibers. The disclosures of the applied art, on the other hand, would not teach or suggest to one of ordinary skill in the art the required sizing agents or the improved properties resulting from the use of such agents. Accordingly, none of the applied art teaches or suggests the claimed invention.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C §§ 102 and 103.

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Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

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